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ABSTRACT

The relationship between education and work are addressed by a vice provost of Northeastern University in testimony to the National Commission on Excellence in Education. Attention is directed to the philosophical and social bases of cooperative education, its impact on learning, as well as its strengths and weaknesses. At Northeastern, the cooperative education model involves a 5-year program at the undergraduate level in which the students devote their first year to full-time study on campus. For the remaining 4 years, student participants alternate between academic study and cooperative work assignments on a quarterly basis. The university also operates graduate-level cooperative education programs in several fields. For cooperative education students, advantages include clarification of career goals, student motivation for study and work, and the development of personal maturity. For employers, cooperative education offers a medium for recruitment and retention of employees. Weaknesses include the difficulty in achieving a meaningful relationship between work and study in the arts and humanities areas. (SW)

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Statement On

"Education and Work: The Role of Postsecondary Institutions"

by

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Presented At

The Hearing on Education and Work of the National Commission on Excellence in Education held in Denver, Colorado on September 16, 1982.

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The theme of this hearing - Education and Work - encompasses an important component of excellence in education. In recent years, social and economic pressures have become evident which give urgency to the need for a critical assessment of the relationship between educational processes and the world of work. It is particularly appropriate that Northeastern University's views are heard since this issue is one which has long been of concern to us.

Northeastern University is a large, urban institution situated in the City of Boston. Predominantly professional in orientation, the University offers undergraduate and graduate programs in Engineering, Business Administration, the Health Sciences, Criminal Justice, Law, the Human Development Professions, as well as in the traditional Liberal Arts fields. In addition, comprehensive adult and continuing education activities are conducted on the main campus and 14 satellite locations in the greater Boston area. About 42,000 students were enrolled in 1981, approximately half of them full-time students, and 4,000 degrees were awarded.

The University's distinguishing feature is its adherence to the cooperative plan of education. Traditionally concerned with access to higher education by all segments of society, Northeastern adopted cooperative education early in this century and refined it into a uniquely effective instructional mode. At this time, the University is not only the largest cooperative educational institution in the country, but has also become the acknowledged national and international leader in this field. The remainder of my comments will be devoted to an account of cooperative education - what it is, its philosophical underpinnings, it social basis, its impact on learning, its strengths, and some of its inherent shortcomings.

It is surely no accident that cooperative education was originally conceived and implemented in the United States. Defined as a strategy of education which combines, in a structured way, formal classroom instruction with career-related job experience, it embodies some uniquely American attitudes such as pragmatism and devotion to the work ethic. It is called cooperative education because the system calls for the cooperation of outside organizations (employers) with the university in the total educational process. In practice, students alternate periods of study with periods of career-related work for which they receive compensation. The job experiences and study components are carefully planned to assure an appropriate match between them, and to attain optimal educational results.

Attitudinal perspectives notwithstanding, it is a fact that education in the United States has predominantly followed traditional European patterns. The relation between education and work has, with some notable exceptions (vocational programs, certain professions), remained implicit rather than explicit. In many instances, the separation between them approaches in completeness that between church and state. During the past decade, forces have come into play which call into question past attitudes about education. Mechanization and automation are changing production patterns. Traditional manufacturing industries are declining as existing service industries are growing and new ones are appearing. At a rapidly increasing pace, our society is entering the post-industrial era based on computers and information technology.

The evolving, new industrial and economic framework is bringing into sharper focus some of the problems resulting from weak links between education and the world of work. Disenchantment and frustration are inevitable when students find themselves prepared for non-existent careers or are forced to take jobs for which they are educationally over qualified. Ironically, meaningful links between education and work are generally eschewed although education is considered to rank high as a job credential.

A hopeful sign is the growing awareness of educators and the business and industrial communities that the gap between education and work exists, is causing difficulties, and needs attention. Efforts to close this gap have, of course, been made over the years, but they have in most cases involved small programs based on informal arrangements whereby students intertwine study and work. Now there is evidence that the work-study linkage problem is receiving recognition in the educational market place. Thus, in the recent supplement on Education of the New York Times, it is reported that enrollments in community and other 2-year colleges are significantly expanding while other sectors of higher education are experiencing a decline in applications. While many factors are responsible for this trend, notably financial considerations, one of them is surely the orientation toward job preparation of 2-year colleges. Among the various models for effectively coupling education and work, cooperative education looms as the most viable one for attaining clearly defined objectives. Used for over 75 years, it has been extensively tested and adapted to changing conditions at Northeastern and elsewhere. In its present form, cooperative education represents the conceptual core of all successful

education-work programs.

Several studies have revealed numerous benefits to the major partners in cooperative education - the students, the employers, and the educational institutions - and to society at large. For the students there is evidence that cooperative education contributes to the clarification of career goals, to confidence in career choices, to persistence to graduation, to improving academic performance, to the development of interpersonal skills, to motivation for study and work, and to personal maturity. With the rising costs of higher education, the cooperative student's earnings represent a benefit of increasing importance. It is a self-earned form of financial aid which, for the majority of Northeastern's cooperative students, covers tuition and a significant portion of room and board costs.

For employers, cooperative education offers a medium for the recruitment and retention of employees who meet their current and future manpower needs. The model permits the evaluation of potential future employees under actual performance conditions. There are, in addition, some savings in recruitment, training, and labor costs, and some less tangible benefits which accrue from increased communications between the workplace and classroom. For the universities, cooperative education provides valuable links to business and industry which permit mutual exploration of the relevance of their educational processes. The institutions also benefit by the students' ability to have earnings which cover tuition expenses, and by the more efficient utilization of their physical plant when the cooperative education model is extensively used. The generally more motivated and mature student body in cooperative education institutions makes for a more serious atmosphere on campus than is evident at most other institutions.

For society, the overriding importance of cooperative education resides in its potential for matching the nation's manpower needs with appropriate educational delivery services. At the same time, the model enlarges the pool of trained manpower by providing increased access to higher education for socially and economically disadvantaged people. In concrete terms, cooperative education students contribute directly to federal and state treasuries in the form of taxes on their earnings.

As the advantages of cooperative education became more evident to institutions, employers, and students, the number of programs increased significantly. A decade ago, less than 100 institutions offered cooperative programs. This number has now grown to over 1000, which is about one-third of all institutions of higher learning in

the country. Yet, the number of postsecondary students involved in these programs remains small (about 2% of all college students). A few institutions (Northeastern University, Drexel University, University of Cincinnati, Rochester Institute of Technology, Antioch College, and some others) account for the majority of them. In most other cases, cooperative education options are available to students in only selected areas of study. The statistics for the nation's cooperative students are nonetheless impressive. Totally, there are about 220,000 of them, working for approximately 100,000 employers including some of the country's foremost corporations such as General Motors, Ford, IBM, Burroughs, General Electric, Bell Telephone, and Xerox, and more than thirty agencies of the federal government. These students earn about $1.1 billion in cooperative jobs and pay ca. $130 million in federal and state taxes.

Northeastern's 10,000 cooperative education students represent about 5% of the total number of these students. Jobs for them are provided by 2,500 employers. Their average annual salaries are $6,000 corresponding to total earnings of $60 million. The taxes paid by these students amount to ca. $6 million. Since a large fraction of the students are employed in Massachusetts, cooperative education plays a significant role in the State's economy.

The implementation of cooperative education programs involves a variety of patterns which differ primarily in the time-frames of the work-study cycles. Northeastern's model is based on a 5-year program at the undergraduate level in which the students devote their first year to full-time study on campus. For the subsequent four upper years the student body is partitioned into two divisions, each of which alternates between academic study and cooperative work assignments on a quarterly bases. When one division is at school, the other one is at work. In this manner, eleven quarters of study are intertwined with eight quarters of work. Participation in cooperative education is mandatory in all colleges except the College of Arts and Sciences, where it is optional. Counselling and placement in jobs is done by the 85-member professional staff of the Department of Cooperative Education.

The University also operates graduate-level cooperative education programs in several fields which differ from the undergraduate program and among themselves in the length and temporal distribution of the work periods. A highly structured Management Intern MBA program is of 21-months duration, of which six months are spent on a professional work assignment. Northeastern's unique 3-year cooperative Law program involves four quarters of practical, legal work experience during the second and

third years. This program is widely recognized for its success in preparing lawyers for the actual practice of law. In graduate engineering, a parallel cooperative education model is used, wherein work and study periods are alternated within one week. At the doctoral level, the Chemistry Department offers a selective, optional professional internship program which allows students to spend one full year as employees in the laboratory of a collaborating company or organization. This program, which has received much publicity, has been emulated elsewhere.

To this point, this account of cooperative education has stressed the advantages of the system. The increasing acceptance of cooperative education by the higher education establishment certainly indicates that the model is recognized as being capable of providing solutions to a broad range of problems. Indeed, after a long induction period and some stimulation by changing emphases in the social, industrial, and economic spheres, cooperative education has become respectable. With the recognition of the value of cooperative education came federal support for its adoption at traditional colleges and universities. In the past ten years grants amounting to a total of $140 million have been awarded under Title VIII and its precursors of the Higher Education Act to initiate new programs. Since 1980, large grants ($500,000 to $1 million) were given to 24 institutions which were planning major commitments to cooperative education. This governmental stimulation and private initiatives resulted in a five-fold increase in the number of cooperative education students nation-wide during the decade.

The picture of cooperative education that emerges appears to be perfect - almost too perfect to be true. There are, of course, some problems, both in the initiation of new programs and the operation of established ones. While the established cooperative education institutions have benefitted from a long period of trial and error during which well-trained staffs were assembled, curricula were adapted to the cooprerative concept, and a pool of employers was assembled, the new programs lack the necessary expertise and external connections. These programs are often managed by untrained personnel and, in many cases, lack the understanding and strong support of the academic faculties. Experience with fledgling cooperative education programs during the recent growth period has identified the factors which are necessary for their successful establishment: A strong institutional commitment, faculty support, mobilization of employer participation, articulation of the cooperative concept to secondary schools and community groups, and flexible attitudes about curricular time-frames. Continued federal assistance is essential to the further growth of

cooperative education. Help in planning and organizing new programs is available through professional organizations such as the National Commission for Cooperative Education which draw upon the expertise of established cooperative institutions.

Even established cooperative education programs are not devoid of shortcomings. For a variety of reasons, the integration of academic study and work experience is, in some instances, less effective than the definition of cooperative education implies. The connection between work and study varies greatly with the field of study. It is strong and effective in professional fields such as engineering, business administration, the health sciences, and the physical and biological sciences. Even in these fields it is not always possible, in the present economic climate, to achieve an optimum match between the nature of the job and the student's aspirations and abilities. In arts and humanities areas, a meaningful relationship between work and study is intrinsically more difficult to achieve. Students in such fields will often take jobs which, though not directly related to their studies, will develop their inter-personal skills. They derive many of the benefits of cooperative employment, although the impact on their career development is less direct than it is for professional fields.

The academic programs at cooperative education institutions are largely traditional in thrust and content. The academic component of the education is essentially indistinguishable from that provided at traditional institutions. Program accreditation requirements and incipient concern about public perception of deviations from normal academic patterns tend to discourage all but minor modification of the academic operation. An additional factor is the faculty reward system which, as in traditional institutions, stresses research and scholarly accomplishments for tenure and promotion. At institutions such as Northeastern University where a professional staff carries out the counselling and placement functions, the academic faculty strongly support the principles of cooperative education but their involvement in the operation of the program tends to be marginal. A consequence of this situation is that the integration between work and study involves mainly the sequencing of curricular material to accommodate the needs of specific cooperative jobs. The feed-forward from the domain of education to the workplace exceeds the feed-back from the workplace to the classroom. The influence of cooperative work on instruction is implicit rather than explicit in that the students' exposure to current techniques and concepts at work brings new dimensions to classroom discussions.

In these comments I have given an overview of cooperative education, an

extensively tested, effective, and respected system for establishing a synergistic relationship between education and work. The system enjoys the enthusiastic support of large segments of the business and industrial communities. Cooperative education continues to evolve into new directions, particularly in the areas of secondary school education, graduate education, and adult education. The changing demographic distribution of our population and the emerging post-industrial order are placing new demands on our educational systems. Cooperative education is eminently suited for meeting this challenge. It is an excellent mechanism for developing human resources under these circumstances.

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